

# Prevention Priorities for Catheter-Associated Urinary Tract Infections (CAUTIs): HICPAC and CDC

Excerpts from the Healthcare Infection Control Practices Advisory Committee (HICPAC) Guideline for Prevention of Catheter-Associated Urinary Tract Infections, 2009 (page 18).

## Prioritization of Recommendations

In this section, the recommendations considered essential for *all* healthcare facilities caring for patients requiring urinary catheterization are organized into modules (appropriate use, insertion, and maintenance) in order to provide more guidance to facilities on implementation of these guidelines. The high-priority recommendations were chosen by a consensus of experts based on strength of recommendation as well as on the likely impact of the strategy in preventing CAUTI.

## Priority Recommendations for Appropriate Urinary Catheter Use

- Insert catheters only for appropriate indications (Table 2) and leave in place only as long as needed. (Category IB\*)

**Table 2 from HICPAC Guidelines for the Prevention of CAUTIs: Appropriate and Inappropriate Indications for Indwelling Urinary Catheter Use**

Examples of <i>Appropriate</i> Indications for Indwelling Urethral Catheter Use
Patient has acute urinary retention or bladder outlet obstruction
Need for accurate measurements of urinary output in critically ill patients
Perioperative use for selected surgical procedures: Patient undergoing urologic surgery or other surgery on contiguous structures of the genitourinary tract Anticipated prolonged duration of surgery (catheters inserted for this reason should be removed in PACU) Patient anticipated to receive large-volume infusions or diuretics during surgery Need for intraoperative monitoring of urinary output
To assist in healing of open sacral or perineal wounds in incontinent patients
Patient requires prolonged immobilization (e.g., potentially unstable thoracic or lumbar spine, multiple traumatic injuries such as pelvic fractures)
To improve comfort for end of life care if needed
Examples of <i>Inappropriate</i> Indications for Indwelling Urinary Catheter Use
As a substitute for nursing care of the patient or resident with incontinence
As a means of obtaining urine for culture or other diagnostic tests when the patient can voluntarily void
For prolonged postoperative duration without appropriate indications (e.g., structural repair of urethra or contiguous structures, prolonged effect of epidural anaesthesia, etc.)

- Avoid use of urinary catheters in patients and nursing home residents for management of incontinence. (Category IB)
- For operative patients who have an indication for an indwelling catheter, remove the catheter as soon as possible postoperatively, preferably within 24 hours, unless there are appropriate indications for continued use. (Category IB)

### **Priority Recommendations for Aseptic Insertion of Urinary Catheters**

- Ensure that only properly trained persons (e.g., hospital personnel, family members, or patients themselves) who know the correct technique of aseptic catheter insertion and maintenance are given this responsibility. (Category IB)
- In the acute care hospital setting, insert catheters using aseptic technique and sterile equipment (Category IB). In the non-acute care setting, clean (i.e., non-sterile) technique for intermittent catheterization is an acceptable and more practical alternative to sterile technique for patients requiring chronic intermittent catheterization. (Category IA)

### **Priority Recommendations for Proper Urinary Catheter Maintenance**

- Following aseptic insertion of the urinary catheter, maintain a closed drainage system (Category IB)
- Maintain unobstructed urine flow. (Category IB)

Other elements critical to the success of a CAUTI prevention program include *administrative infrastructure, surveillance, and quality improvement (QI) programs*. QI programs should be implemented as an active approach to accomplishing these priority recommendations and when process and outcome measure goals are not being met based on internal reporting. The purposes of QI programs should be: 1) to assure appropriate utilization of catheters; 2) to identify and remove catheters that are no longer needed (e.g., daily review of their continued need); and 3) to ensure adherence to hand hygiene and proper care of catheters.

Examples of QI programs that have been demonstrated to be effective include:

1. A system of alerts or reminders to identify all patients with urinary catheters and assess the need for continued catheterization
2. Guidelines and protocols for nurse-directed removal of unnecessary urinary catheters
3. Education and performance feedback regarding appropriate use, hand hygiene, and catheter care
4. Guidelines and algorithms for appropriate peri-operative catheter management, such as:
  - a. Procedure-specific guidelines for catheter placement and postoperative catheter removal
  - b. Protocols for management of postoperative urinary retention, such as nurse-directed use of intermittent catheterization and use of bladder ultrasound scanners

\*In the modified HICPAC categorization scheme for recommendations:

Category 1A: A strong recommendation supported by high to moderate quality evidence suggesting net clinical benefits or harms.

Category 1B: A strong recommendation supported by low quality evidence suggesting net clinical benefits or harms or an accepted practice (e.g., aseptic technique) supported by low to very low quality evidence.

Resource: Gould CV, Umscheid CA, Agarwal RK, Kuntz G, Pegues DA, and the Healthcare Infection Control Practices Advisory Committee (HICPAC). Guideline for Prevention of Catheter-Associated Urinary Tract Infections, 2009. ([http://www.cdc.gov/hicpac/cauti/002\\_cauti\\_toc.html](http://www.cdc.gov/hicpac/cauti/002_cauti_toc.html))

## Summary of Centers for Disease Control and Prevention (CDC) resource to prioritize CAUTI prevention practices for a collaborative based on HICPAC recommendations

Prevention strategies*	
<b>Core strategies**</b>	<ul style="list-style-type: none"> <li>• Insert catheters only for appropriate indications</li> <li>• Leave catheters in place only as long as needed</li> <li>• Only properly trained persons insert and maintain catheters</li> <li>• Insert catheters using aseptic technique and sterile equipment</li> <li>• Maintain a closed drainage system</li> <li>• Maintain unobstructed urine flow</li> <li>• Hand hygiene and standard (or appropriate isolation) precautions</li> </ul>
<b>Supplemental strategies***</b>	<ul style="list-style-type: none"> <li>• Alternatives to indwelling urinary catheterization</li> <li>• Portable ultrasound devices to reduce unnecessary catheterizations</li> <li>• Antimicrobial/antiseptic-impregnated catheters</li> </ul>
<b>NOT recommended for CAUTI prevention</b>	<ul style="list-style-type: none"> <li>• Complex urinary drainage systems (e.g., antiseptic-releasing cartridges in drain port)</li> <li>• Changing catheters or drainage bags at routine, fixed intervals (clinical indications include infection, obstruction, or compromise of closed system)</li> <li>• Routine antimicrobial prophylaxis</li> <li>• Cleaning of periurethral area with antiseptics while catheter is in place (use routine hygiene)</li> <li>• Irrigation of bladder with antimicrobials</li> <li>• Instillation of antiseptic or antimicrobial solutions into drainage bags</li> <li>• Routine screening for asymptomatic bacteriuria</li> </ul>
<p>*The Collaborative should include core prevention strategies, at minimum. Supplemental prevention strategies also may be used. Most core and supplemental strategies are based on HICPAC guidelines.</p> <p>** Core strategies = Suggested strategies where the published literature establishes high levels of scientific evidence and demonstrated feasibility. All core strategies included in this table are a HICPAC category IB, which is defined as a strong recommendation supported by low quality evidence suggesting net clinical benefits or harms or an accepted practice (e.g., aseptic technique) supported by low to very low quality evidence.</p> <p>*** Supplemental strategies = Suggested strategies where the published literature establishes some scientific evidence and variable levels of feasibility.</p>	

Adapted from CDC Catheter-associated Urinary Tract Infection (CAUTI) Toolkit: Prevention Collaboratives ([http://www.cdc.gov/HAI/pdfs/toolkits/CAUTItoolkit\\_3\\_10.pdf](http://www.cdc.gov/HAI/pdfs/toolkits/CAUTItoolkit_3_10.pdf))